

By Gabriela Goldberg

## No use in shouting

**A** ping interrupts the podcast coming through my headphones. It's 6 a.m. and I am working in the tissue culture room after an early start because of pandemic-related social distancing requirements. The message is probably from my family who live across the country, 3 hours ahead of me. I finish adding media to my cells, return the dishes to the incubator, take off my gloves, and grab my phone. I read the screen and let out a deep sigh. It's a WhatsApp message from my mom, with a link to a petition she started and wants me to sign.

She heard the promising preliminary results for the COVID-19 vaccines, and she argues that government officials should get vaccinated first because they are essential workers making critical decisions. It sounds rational. But knowing my mom, it stems from her belief in conspiracies. She probably thinks government workers should be the ones forced to prove the vaccines are safe.

You see, what I've learned in my pursuit of a biomedical Ph.D. doesn't exactly match up with the beliefs I grew up with—that all pharmaceutical drugs are bad, the government has the cure for cancer, and natural remedies can cure all ailments. When I had a stomachache, we would call my grandmother to practice reiki healing from a continent away. My mom would place her hands on my belly and channel my grandmother's energy. I believed that whether the pain subsided depended on outside sources, such as a lunar eclipse or tropical storm, either amplifying or blocking her energy.

My thinking began to evolve when I took biology in high school and learned that bananas release ethylene gas, causing surrounding fruits to ripen. This sounded like a cousin of the energy that relieved my aching stomach! I enthusiastically explained every detail to my parents. At first, they welcomed my excitement; they have always been completely supportive of me and my scientific pursuits. But as the topics we discussed progressed from ethylene gas to medicine, the dinner table transformed from a classroom to a debate floor. When I told them how chemotherapy targets rapidly dividing cells, for example, they argued that the treatment is prescribed solely for the financial benefit of doctors and pharmaceutical companies, and they noted a friend who beat cancer with a superfood-rich diet.

Over time, I learned that our dinner table debates would never bridge the gap between my parents' views and mine. We needed to make it more of a conversation, in which I



**“I don’t try to convince my parents that their beliefs are wrong.”**

tried to understand their beliefs before offering my knowledge. For example, after learning about penicillins in college, I was eager to tell my parents. First, though, I asked what they knew about these antibiotics. I learned that they assume doctors prescribe them for everything, and they believe natural remedies are safer and more effective. I told them I agree that doctors overprescribe antibiotics, and I went on to share that penicillins were discovered in naturally occurring fungi. Now they were listening, and we went on to have a fruitful discussion.

We had some tense, contentious moments over the years, but we finally got to a good place. I don't try to convince my parents that their beliefs are wrong; instead, I try to help them find the balance between honoring their beliefs and recognizing scientific truths. Then, COVID-19 happened. They reached out to me with their questions and concerns, and it quickly became clear that they had fallen victim to dangerous conspiracy theories, believing masks and social distancing were a form of government control. Over several phone calls, I listened first and considered their views when I shared what I knew about the virus. And thanks to the hard work we had all done to understand each other's perspectives and practice our communication, they ultimately accepted that the virus is real and they need to take precautions.

Now that there are approved vaccines, I'm gearing up for the next round of give-and-take conversation. At times it's frustrating to feel we keep starting over—but I remind myself that we aren't back at square one. We've built a foundation of mutual understanding and respect, and that makes all the difference. ■

Gabriela Goldberg is a Ph.D. student at the University of California, San Diego. Send your career story to [SciCareerEditor@aaas.org](mailto:SciCareerEditor@aaas.org).

# Science

## No use in shouting

Gabriela Goldberg

*Science* **371** (6526), 314.

DOI: 10.1126/science.371.6526.314

### ARTICLE TOOLS

<http://science.sciencemag.org/content/371/6526/314>

### PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

---

*Science* (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

Copyright © 2021 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works